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Survey Automation Detection Methods and its Implications on Psychological Research

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Web-based data collection methods such as Amazon’s Mechanical Turk (MTurk) are an appealing option to recruit participants quickly and cheaply for psychological research. While concerns regarding data quality have emerged with MTurk, several studies have exhibited that data collected via MTurk are as reliable as traditional college samples and are often more diverse and representative of noncollege populations. The development of participant screening methods, however, has been less explored. Omitting participants based on simple screening methods, such as response time or attention checks may not be adequate identification methods, with an inability to delineate between real or fake participants. An alternative form of suspicious survey responses stem not from human participants, but from survey automation techniques such as survey bots or automated form fillers. The current project develops survey automation detection (SAD) methods while overcoming previous screening limitations. Multiple checks are employed, such as response time, skewness and kurtosis values, and the number of utilized choices from a given range of scale options. This method is tested on a survey taken with an easily available plug-in survey bot, as well as compared to data collected by human participants providing both real and randomized answers. An R function is proposed for researchers to screen for potential problems with MTurk data. Identified cases can then be used as part of sensitivity analyses to warrant exclusion from further analyses. SAD methods can be a promising tool to identify non-real or automated data via MTurk or other online data collection platforms.